

CLAIMS

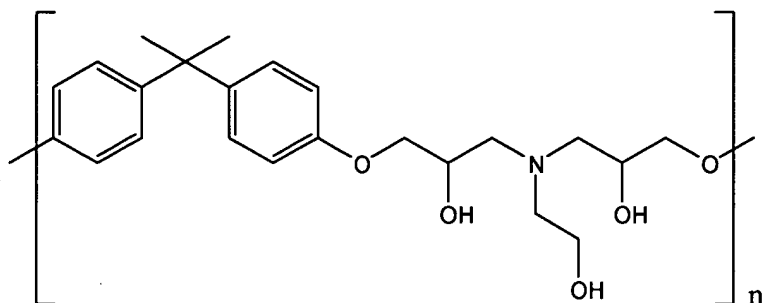
What is claimed is:

1. A composition for forming an overcoat layer for an organophotoreceptor comprising:

polyaminoether;
an electron transport material; and
an alcoholic solvent.

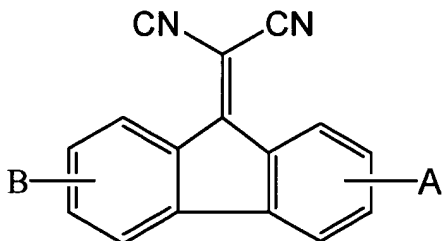
2. The composition of claim 1, wherein the polyaminoether is hydroxylated polyaminoether.

3. The composition of claim 1, wherein the polyaminoether is represented by the following formula, and is contained in an amount of 70 to 99 parts by weight based on 100 parts by weight of the solid content of an overcoat layer:



wherein n is an integer from 10 to 400.

4. The composition of claim 1, wherein the electron transport material contains an electron transport material represented by the following formula:



wherein A and B are independently one selected from the group consisting of a hydrogen atom, a halogen atom, a C2 ~ C30 substituted or unsubstituted alkoxy carbonyl group or a C2 ~ C30 substituted or unsubstituted alkylaminocarbonyl group, and the hydrogen atoms in the benzene ring is substitutable by a halogen atom.

5. The composition of claim 1, wherein the amount of the electron transport material is in the range of 1 to 30 parts by weight based on 100 parts by weight of the solid content of an overcoat layer.

6. The composition of claim 1, wherein the alcoholic solvent is at least one selected from the group consisting of 1-methoxy-2-propanol, methanol, ethanol, propanol, butanol and isopropanol, and is contained in an amount of 70 to 99 parts by weight based on 100 parts by weight of the composition for an overcoat layer.

7. An organophotoreceptor comprising:
an electrically conductive substrate;
a photosensitive layer formed on the electrically conductive substrate; and
an overcoat layer formed by coating the composition of any one of claims 1, 2, 3, 4, 5 and 6 on the photosensitive layer and drying.

8. The organophotoreceptor of claim 7, wherein the overcoat layer has a thickness of 0.01 to 5 μ m.

9. The organophotoreceptor of claim 7, wherein the photosensitive layer is a single layer having both a charge generating material and a charge transport material.

10. The organophotoreceptor of claim 7, wherein the photosensitive layer is a double layer in which a charge generating layer containing a charge generating material and a charge transport layer containing a charge transport material are laminated.

11. An electrophotographic imaging apparatus comprising:
a plurality of support rollers; and

an organophotoreceptor operably coupled to the support rollers where motion of the support rollers results in motion of the organophotoreceptor, wherein the organophotoreceptor comprises an electrically conductive substrate, a photosensitive layer formed on the electrically conductive substrate, and an overcoat layer formed by coating the composition of any one of claims 1, 2, 3, 4, 5 and 6 on the photosensitive layer and drying.

12. The electrophotographic imaging apparatus of claim 11, wherein the overcoat layer has a thickness of 0.01 to 5 μ m.

13. The electrophotographic imaging apparatus of claim 11, wherein the photosensitive layer is a single layer having both a charge generating material and a charge transport material.

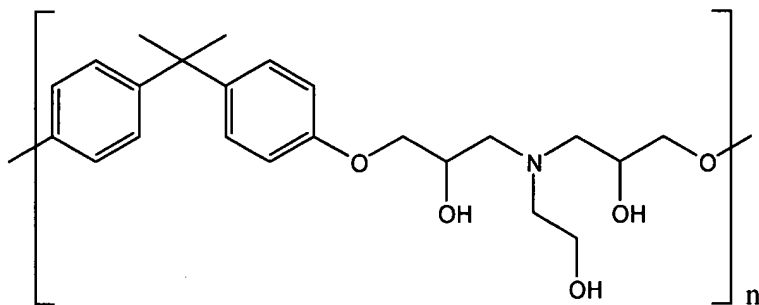
14. The electrophotographic imaging apparatus of claim 11, wherein the photosensitive layer is a double layer in which a charge generating layer containing a charge generating material and a charge transport layer containing a charge transport material are laminated.

15. An electrophotographic cartridge, comprising:
an organophotoreceptor comprising an electrically conductive substrate, a photosensitive layer formed on the electrically conductive substrate, and an overcoat layer formed by coating a composition on the photosensitive layer and drying the overcoat layer;
a charging device that charges the organophotoreceptor;
a developing device which develops an electrostatic latent image formed on the organophotoreceptor; and
a cleaning device which cleans a surface of the organophotoreceptor,
wherein the electrophotographic cartridge is attachable to and detachable from an image forming apparatus.

16. The electrophotographic cartridge of claim 15, wherein the composition to be coated on the photosensitive layer comprises:
a polyaminoether;
an electron transport material; and
an alcoholic solvent.

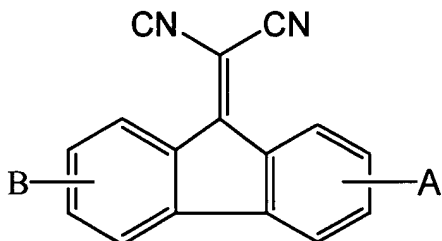
17. The electrophotographic cartridge of claim 16, wherein the polyaminoether is hydroxylated polyaminoether.

18. The electrophotographic cartridge of claim 16, wherein the polyaminoether is represented by the following formula, and is contained in an amount of 70 to 99 parts by weight based on 100 parts by weight of the solid content of an overcoat layer:



wherein n is an integer from 10 to 400.

19. The electrophotographic cartridge of claim 16, wherein the electron transport material contains an electron transport material represented by the following formula:



wherein A and B are independently one selected from the group consisting of a hydrogen atom, a halogen atom, a C2 ~ C30 substituted or unsubstituted alkoxy carbonyl group or a C2 ~ C30 substituted or unsubstituted alkylaminocarbonyl group, and the hydrogen atoms in the benzene ring can be substituted substitutable by a halogen atom.

20. The electrophotographic cartridge of claim 16, wherein the amount of the electron transport material may be is in the range of 1 to 30 parts by weight based on 100 parts by weight of the solid content of an overcoat layer.

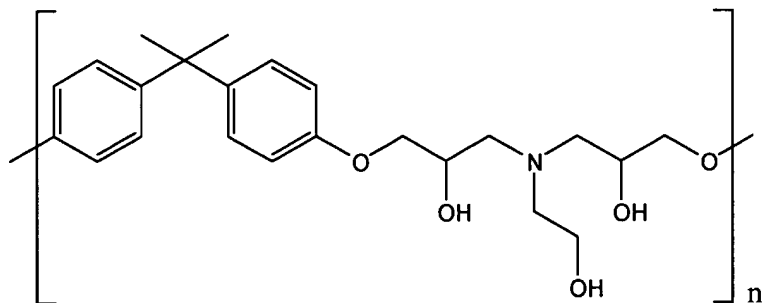
21. The electrophotographic cartridge of claim 16, wherein the alcoholic solvent is at least one selected from the group consisting of 1-methoxy-2-propanol, methanol, ethanol, propanol, butanol and isopropanol, and is contained in an amount of 70 to 99 parts by weight based on 100 parts by weight of the composition for an overcoat layer.

22. An electrophotographic drum, comprising:
a drum that is attachable to and detachable from an electrophotographic apparatus; and
an organophotoreceptor comprising an electrically conductive substrate, a photosensitive layer formed on the electrically conductive substrate, and an overcoat layer formed by coating a composition on the photosensitive layer and drying the overcoat layer.

23. The electrophotographic drum of claim 22, wherein the composition to be coated on the photosensitive layer comprises:
a polyaminoether;
an electron transport material; and
an alcoholic solvent.

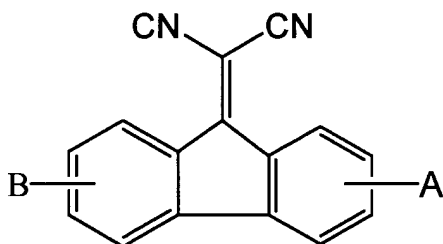
24. The electrophotographic drum of claim 23, wherein the polyaminoether is hydroxylated polyaminoether.

25. The electrophotographic drum of claim 23, wherein the polyaminoether is represented by the following formula, and is contained in an amount of 70 to 99 parts by weight based on 100 parts by weight of the solid content of an overcoat layer:



wherein n is an integer from 10 to 400.

26. The electrophotographic drum of claim 23, wherein the electron transport material contains an electron transport material represented by the following formula:



wherein A and B are independently one selected from the group consisting of a hydrogen atom, a halogen atom, a C2 ~ C30 substituted or unsubstituted alkoxy carbonyl group or a C2 ~ C30 substituted or unsubstituted alkylaminocarbonyl group, and the hydrogen atoms in the benzene ring can be substituted substitutable by a halogen atom.

27. The electrophotographic drum of claim 23, wherein the amount of the electron transport material may be is in the range of 1 to 30 parts by weight based on 100 parts by weight of the solid content of an overcoat layer.

28. The electrophotographic drum of claim 23, wherein the alcoholic solvent is at least one selected from the group consisting of 1-methoxy-2-propanol, methanol, ethanol, propanol, butanol and isopropanol, and is contained in an amount of 70 to 99 parts by weight based on 100 parts by weight of the composition for an overcoat layer.